2/2 023 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105121

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CHANGES OF LEUKOPOIETIC ACTIVITY OF THE BLOOD SERUM OF DOGS AND HORSES WERE STUDIED IN ASEPTIC INFLAMMATION CAUSED BY TURPENTINE. BLOOD PROVED TO BECOME ENRICHED WITH LEUKOPOIETINS, WHICH IN INTACT ANIMALS STIMULATED DIFFERENTIATION OF STEM CELLS IN THE DIRECTION OF GRANULOCYTOPOIESIS, PROLIFERATIVE ACTIVITY OF GRANULOCYTES, THEIR MATURATION AND LIBERATION INTO THE PERIPHERAL BLOOD. ACCUMULATION OF LEUKOPOIETINS WAS PHASIC IN CHARACTER; THEIR MAXIMAL AMOUNT WAS REVEALED IN THE BLOOD 3 TO 7 DAYS AFTER ADMINISTRATION OF TURPENTINE. LEUKOPENINS DEPRESSING THE PROLIFERATIVE ACTIVITY OF GRANULOCYTES AND LIBERATION OF MATURE GRANULOCYTES FROM THE BONE MARROW INTO THE PERIPHERAL BLOOD WERE REVEALED IN SOME OF THE SERUM SAMPLES. FACILITY: PATOFIZIOLOGICHESKAYA LABORATORIYA TSENTRAL'NOGO INSTITUTA GEMATOLOGII I PERELIVANIYA KROVI MINISTERSTVA ZDRAVOOKHRANENIYA SSSR, MOSKVA. FACILITY: LABORATORIYA FIZIOLOGII VSESOYUZNOGO NAUCHNO ISSLEDOVATEL'SKOGO INSTITUTA KONEVODSTVA, MOSCOW.

UNCLASSIFIED

USSR

UDC: 693.54:621.311.21(282.251.2)

DOLGININ, YE. A., Chief Engineer of Krasnoyarsk Hydroelectric Power Plant Construction Project, and LISKUN, YE. YE., Chief Technologist

"Concrete Work Involved in the Construction of the Krasnoyarsk Hydroelectric Power Plant"

Moscow, Gidrotekhnicheskoye Stroitel'stvo, No 9, Sep 72, pp. 19-23

Abstract: The concrete dam of the Krasnoyarsk hydroelectric power plant has a maximum height of 124 m, is 1100 m in length and is located in a relatively narrow, rocky canyon of the Yenisey River. Construction of the dam and power plant building required 5.5 million cubic meters of concrete. The dam and power plant were constructed in an area with severe climatic conditions, with temperature fluctuations from -54 to +37°C. This article describes the type and manufacture of cement used, pouring and reinforcing techniques, crack-prevention measures, labor and cost investment. The scaffoldless method developed and successfully used on this project improved the economy and quality of the work. Crack prevention measures (provision of medium-temperature cement from a single supplier, cooling of the concrete mixture at the concrete plants, 3-stage system of cooling of poured concrete using river water, etc.) were quite successful. A high-productivity continuous concrete production plant was used in combination with a smaller, batch-processing plant. The method was quite successful.
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1/2 025 UNCLASSIFIED PROCESSING DATE--090CT70

TITLE--POLARIZATION OF PARTICLES AND QUANTA SCATTERED BY THICK LAYERS OF MATTER -U-

AUTHOR-(03)-GNEDIN, YU.N., DOLGINOV, A.Z., SILANTYEV, N.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 2, PP 706-720

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LIGHT POLARIZATION, ANGULAR DISTRIBUTION, PARTICLE SCATTER, LIGHT SCATTERING, NEUTRON POLARIZATION, SPIN ORBIT COUPLING, NEUTRON SCATTERING, OXYGEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1976/2068 STEP NO--UR/0056/70/058/002/0706/0720

CIRC ACCESSION NO--AP0043595

UNCLASSIFIED

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710002-7"

2/2 025 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0043595

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS PROPOSED FOR CALCULATING THE POLARIZATION AND ANGULAR DISTRIBUTION OF SPIN ONE HALF PARTICLES AND OF QUANTA SCATTERED BY A PLANE LAYER OF LARGE OPTICAL DENSITY. POLARIZATION OF PHOTONS REFLECTED AND TRANSMITTED BY AN OPTICALLY THICK MEDIUM CONSISTING OF FREELY ORIENTED PARTICLES (ELECTRONS, ATOMS, DUST GRAINS) IS CALCULATED ON THE ASSUMPTION THAT THE INITIAL PHOTON BEAM IS INCIDENT AT AN ARBITRARY ANGLE TO THE SURFACE OF THE MEDIUM AND POSSESSES AN ARBITRARY POLARIZATION. ANALYTIC FORMULAS ARE ALSO OBTAINED WHICH DESCRIBE THE POLARIZATION OF NEUTRONS SCATTERED BY A PLANE LAYER OF MATTER, THE POLARIZATION BEING DUE TO SPIN ORBIT INTERACTION WITH THE NUCLEI. A NUMERICAL CALCULATION CARRIED OUT FOR THE O PRIME16 NUCLEUS SHOWS THAT THE POLARIZATION MAY BE QUITE LARGE. THIS PERMITS ONE TO OBTAIN AN INTENSE NEUTRON BEAM WITH A POLARIZATION OF SEVERAL TENS OF PERCENT.

UNCLASSIFIED

DOLGOV, L.M.

SPRS 52208

6.73

X-6b. APPLICATION OF ELECTRON SOUNDING MICROANALYSIS TO INVESTIGATE SEMICONDUCTOR SOLID SOLUTIONS OBTAINED BY THE METHOD OF CAPACITIVE EPITAXY

[Article by T. A. Ukhorskaya, E. A. Gimel'farb, L. M. Dolgov, V.I. Fistul', Moscow; Novosibirsk, III Simposium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 134]

The method of electron sounding microanalysis was used to study the peculiarities of the distribution of the basic components with respect to thickness of layers of semiconducting solid solutions of $A^{III}_{B}-A^{III}_{B}V^{I}$ and $A^{III}_{B}-A^{III}_{B}V^{I}$ obtained by the method of liquid epitaxy (GaAs-AlAs, InP-GaP, GaAs-ZnSe, and so on). The procedural possibilities of the local X-ray spectral and microcathode luminescence analyses for studying the structure of semiconductor crystals and films were demonstrated. The temperature functions on the variation of the distribution coefficients of the components between the solid phase and liquid phase obtained by the results of X-ray spectral and cathode luminescence measurements agree well with the theoretical curves. The simultaneous recording of the X-ray and optical spectra in microvolumes on the order of several microns permitted investigation of the laws of variation of the physical parameters in particular, the width of the forbidden zone along with the distribution laws of the components in the epitaxial layers.

- 138 -

USSR

UDC 621.382.2:535.376

BRONSHTEYN, I. K., DOLGINOV, L. M., ZHITKOV, Yu. A., LIBOV, L. D., SHARIN, A. I., SHLENSKIY, A. A.

"Some Characteristics of Electroluminescent Diodes Based on Hetero PN Junctions in $Al_xGa_{1-x}As$"

Moscow, Radiotekhnika i Elektronika, vol 16, No 12, Dec 71, pp 2330-2332

Abstract: The authors investigate electroluminescent diodes based on the epitaxial heterostructure P-GaAs — P-$Al_xGa_{1-x}As$ — N-$Al_yGa_{1-y}As$ ($x \cong 0.05$, $y \cong 0.1$). The radiation from the P-$Al_xGa_{1-x}As$ layer propagates in a direction perpendicular to the PN junction through the transparent N-region. The emitting layer is doped with germanium to a hole concentration of about $5 \cdot 10^{18}$/cc, and the N-layer is tellurium-doped to an electron concentration of about 10^{18}/cc. The area of the PN junction is about 0.01 cm^2. The electrical parameters of the diodes at room temperature: specific zero-bias capacitance of the PN junction about 10^5 pF/cm^2, current cutoff voltage 1.3-1.4 V depending on the mole fraction of aluminum arsenide in the solid solution, breakdown voltage 7 V, residual resistance 0.5 ohm or less.

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USSR

BRONSHTEYN, I. K. et al., Radiotekhnika i Elektronika, vol 16, No 12, Dec 71, pp 2330-2332

An investigation of the principal electroluminescence characteristics of the diodes shows that they satisfy all the requirements for use as emitters in high-speed electron-optical devices. One figure, one table, bibliography of eight titles.

2/2

USSR UDC: 621.373:530.145.6

DOLGINOV, L. M., DRUZHININA, L. V., YELISEYEV, P. G., KHRASAVIN, I. V., LIBOV, L. D.

"Continuous Emission in Semiconductor Lasers at Room Temperature"

Kratkiye soobshch. po fiz. (Brief Reports on Physics), 1971, No 2, pp 57-63 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D158)

Translation: The authors describe injection lasers based on symmetric heterostructures with strip geometry operating in the continuous mode at a temperature of 300°K. The heterostructures are produced by the method of liquid epitaxy from solutions in gallium. A layer of N-type $Al_xGa_{1-x}As$ 2-5 μ thick doped with tin (N emitter) was grown on a substrate of N-type GaAs oriented in plane (100), followed by a layer of N-type GaAs (undoped) or P-type germanium-doped GaAs (active layer) 0.4-1.2 μ thick, a layer of P-type germanium-doped $Al_xGa_{1-x}As$ 1.7-2.5 μ thick (P-emitter), and finally a fourth layer of P-type GaAs (with germanium) to make a low-resistance contact no more than 2 μ thick. A silicon dioxide film was deposited on the P-side of the heterostructure, and bands 15 μ thick were photographically etched in this film in direction [110]. The value of x was typically

DOLGINOV, L. M. et al., Kratkiye soobshch. po fiz., 1971, No 2, pp 57-63

0.2-0.4. Measurements showed that the main pumping power is released in a band 18-20 μ wide. It is shown that the necessary conditions for obtaining continuous emission are low threshold current density, which is realizable so far only in symmetric heterostructures, a thin diode base, and low series resistance of the diode (per unit area of the active region). A. K.

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USSR

UDC 621.382.2

DZHAFAROV, T. D., DEDEGKAYEV, T. T., DOLGINOV, L. M.

"Investigation of the Concentration Profiles of Diffused Heterojunction of GaP--GaAs and InP--InAs with an Electron Microprobe"

V sb. Fiz. elektronno-dyrochn. perekhodov i poluprovodn. priborov (Zh. fiz. i tekhn. poluprovodnikov) (Physics of Electron-Hole Junctions and Semiconductor Devices -- Collection of Works [Journal of Physics and Technology of Semiconductors]), Leningrad, "Nauka," pp 188-190 (from RZh--Elektronika i yeye primeneniye, No 3, Mar 70, Abstract No 3B149)

Translation: The method of x-ray spectral microprobe analysis is used to investigate the concentration profile for the components of smooth heterojunctions of GaP--GaAs and InP--InAs prepared by diffusion of phosphorous into monocrystalline wafers of gallium arsenide and indium arsenide. 2 ill. 3 ref. Summary.

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1/2 035 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--COMPARISON BETWEEN INTERPLANETARY MAGNETIC FIELD MEASUREMENTS OBTAINED BY THE SPACE STATIONS VENERA 4 AND MARINER 5 -U-
AUTHOR-(03)-DOLGINOV, SH.SH., YEROSHENKO, YE.G., ZHUZGOV, L.N.

COUNTRY OF INFO--USSR

SOURCE--KOSMICHESKIE ISSLEDOVANIIA, VOL. 8, MAR.-APR. 1970, P. 290-297

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, ATMOSPHERIC SCIENCES, SPACE TECHNOLOGY
TOPIC TAGS--SPACE MAGNETIC FIELD, INTERPLANETARY FIELD, MAGNETIC FIELD INTENSITY/(U)VENUS 4 VENUS PROBE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/1765 STEP NO--UR/0293/70/008/000/0290/0297

CIRC ACCESSION NO--AP0115594
UNCLASSIFIED

2/2 035 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0115594
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPARISON OF THE FIELD MEASUREMENTS OBTAINED BY VENERA 4 AND MARINER 5 DURING THEIR SIMULTANEOUS FLIGHT TOWARD THE PLANET VENUS. THE COMPARISON CONFIRMS THE EXISTENCE OF A DISTINCT CORRELATION BETWEEN THE INTERPLANETARY FIELD INTENSITY AND THE GEOMAGNETIC ACTIVITY LEVEL AND 27 DAY SOLAR ACTIVITY CYCLE.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PECULIARITIES OF THE INTERPRETATION OF X RAY PHOTOGRAPHS OF AUSTENITIC STEELS -U-

AUTHOR-(05)-GOLGIY, A.A., VOLKOV, A.S., STAROSTIN, A.P., MIKITAS, A.P., PANOV, A.YE.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, SVAROCHNOYE PROIZVODSTVO, NO 3, 1970, PP 36-37

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--AUSTENITIC STEEL, BIBLIOGRAPHY, WELD DEFECT, X RAY TECHNIQUE, RADIOGRAPHIC JOINT INSPECTION, RADIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1316 STEP NO--UR/0135/70/000/003/0036/0037

CIRC ACCESSION NO--AP0123275

UNCLASSIFIED

2/2 033 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0123275
ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. IT HAS BEEN ESTABLISHED THAT APPARENT DARKENING OF THE FILM OBSERVED UPON X RAYING OF WELDS IN AUSTENITIC STEEL ARE FREQUENTLY A RESULT OF THE OVERHEATING OF THE WELD AND NOT THAT OF THE PRESENCE OF DEFECTS IN IT.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--OPTIMIZATION OF THE RECIPROCAL AMBIGUITY FUNCTION IN A GIVEN REGION
-U-
AUTHOR-(02)-DOLGOCHUB, V.T., SVERDLIK, M.B.

COUNTRY OF INFO--USSR

SOURCE--KIEV, IZVESTIYA VUZOV SSSR-RADIOELEKTRONIKA, VOL 13, NO 2, 1970, PP 186-191
DATE PUBLISHED-------70

SUBJECT AREAS--NAVIGATION

TOPIC TAGS--FILTER CIRCUIT, ELECTRIC FILTER, PULSE SIGNAL, RADAR SIGNAL, RADIO SIGNAL, ANTENNA SIDE LOBE, SIGNAL PROCESSING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1991/0151 STEP NO--UR/0452/70/013/002/0186/0191

CIRC ACCESSION NO--AP0110117
UNCLASSIFIED

2/2 032 UNCLASSIFIED PROCESSING DATE--020CT70
CIRC ACCESSION NO--AP0110117
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBLEM OF REDUCING THE LEVEL OF THE AMBIGUITY FUNCTION SURFACE IS AN IMPORTANT ONE IN RADAR AND RADIO COMMUNICATION. THIS IS TRUE ALSO OF THE RECIPROCAL AMBIGUITY FUNCTION, OPTIMIZATION OF WHICH IS ATTAINED BY PROPER CHOICE OF PULSE RESPONSE OF THE FILTER. THIS PAPER PROPOSES A METHOD FOR DESIGNING THE FILTER WHICH MAXIMIZES THE RATIO OF THE PEAK MODULUS SQUARED TO THE SUM OF THE SQUARES OF THE SIDE LOBES IN AN ARBITRARY ZONE OF THE RECIPROCAL AMBIGUITY FUNCTION. THIS METHOD IS APPLICABLE TO ANY SIGNAL, AND TO SIGNALS SHIFTED IN FREQUENCY WITH RESPECT TO THE CENTER FREQUENCY OF THE FILTER. FOR CONVENIENCE, THE INPUT SIGNAL, THE FILTER'S PULSE RESPONSE AND THE RECIPROCAL AMBIGUITY FUNCTION ARE PUT IN MATRIX FORM. USING THIS TYPE OF COMPUTATION, A METHOD IS DEVELOPED FOR FINDING THE MAXIMUM RESPONSE OF THE FILTER TO PULSE SIGNALS.

UNCLASSIFIED

USSR

UDC 621.391

DOLGOCHUB, V. T. and SVERDLIK, M. B.

"Optimization of the Reciprocal Ambiguity Function in a Given Region"

Kiev, Izvedtiya Vuzov SSSR-Radioelektronika, Vol 13, No 2, 1970, pp 186-191

Abstract: The problem of reducing the level of the ambiguity function surface is an important one in radar and radio communication. This is true also of the reciprocal ambiguity function, optimization of which is attained by proper choice of pulse response of the filter. This paper proposes a method for designing the filter which maximizes the ratio of the peak modulus squared to the sum of the squares of the side lobes in an arbitrary zone of the reciprocal ambiguity function. This method is applicable to any signal, and to signals shifted in frequency with respect to the center frequency of the filter. For convenience, the input signal, the filter's pulse response and the reciprocal ambiguity function are put in matrix form. Using this type of computation, a method is developed for finding the maximum response of the filter to pulse signals.

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USSR

DOLGOV, A. D., DOLGOLENKO, A. G., ZAKHAROV, V. I., OKUN', L. B., Institute of Theoretical and Experimental Physics, State Commission on Utilization of Nuclear Power

"$K_L \to 2\mu$ Decay and the Possibility of Existence of a Light Vector Meson"

Moscow, Yadernaya Fizika, Vol 16, No 2, Aug 72, pp 376-383

Abstract: The authors discuss the hypothesis which holds that the existence of a light vector meson χ_0 is responsible for the failure of experiments set up to detect $K_L \to 2\mu$ decay. The analysis shows that existence of a χ-meson with the properties necessary for compensating the two-photon contribution to $\mathrm{Im}\, F(K_1 \to 2\mu)$ contradicts experiment. This and other difficulties seem to rule out the existence of such a particle. If the hypothetical χ-meson does exist, it would have to decay into new light neutral particles or undergo interaction $\chi\gamma\mu\bar{\mu}$, both unlikely possibilities. The authors thank V. V. Barmin, V. S. Demidov, A. G. Meshkovskiy, N. N. Nikolayev and V. A. Shebanov for constructive criticism.

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DOLGOLENKO G.P.

Acc. Nr.: AN0104123 Ref. Code: UR9003

TITLE-- ANNOUNCEMENT OF THE COMMITTEE ON LENIN AND STATE PRIZES, U.S.S.R.

49

NEWSPAPER-- IZVESTIYA, MAY 28, 1970, P 4, COLS 1-5

ABSTRACT-- NINETY ONE BASIC AND APPLIED RESEARCH WORKS HAVE BEEN NOMINATED FOR THE STATE PRIZES. TWO OF THESE, "THE MULTI-PURPOSE INDUSTRIAL HELICOPTER KA-26", BY N. I. KAMOV, V. B. ALPEROVICH, V. B. BARSHEVSKIY, A. A. DMITRIYEV, G. I. IGFEE, M. A. KUPFER, L. A. POTASHNIK, N. N. PRIOROV, A. G. SATAROV, I. M. VEDENEYEV, S. B. BREN, AND V. A. NAZAROV, AND "THE DEVELOPMENT OF TURBOFAN JET ENGINES NK-8 AND NK-8-4, AND THE DEVELOPMENT AND REDUCTION TO SERIAL PRODUCTION A SYSTEM OF TECHNOLOGICAL PROCESSES WHICH ASSURED WIDE USES FOR TITANIUM ALLOYS", BY N. D. KUZNETSOV, M. T. VASILISHIN, V. A. KURGANOV, P. M. MARKIN, V. D. RADCHENKO, P. A. SUKHOV, A. A. MUKHIN, V. G. SHITOV, G. I. MUSHENKO, L. A. SHKODO, AND G. P. DOLGOLENKO, HAVE BEEN SUBMITTED BY THE MINISTRY OF THE AVIATION INDUSTRY.

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Reel/Frame
19870555

Acc. Nr.: AN0104123

"A SERIES OF INVESTIGATIONS INTO THE DYNAMICS OF A BODY WITH FLUID-FILLED CAVITIES", /65-68/, BY N. N. MOISEYEV, A. A. PETROV, V. V. RUMYANTSEV AND F. L. CHERNOUS'KO AND "ULTRA HIGH PRECISION JIG BORING MILLS WITH 1,000 X 1,600 AND 1,400 X 2,240 MM PLATENS", BY A. I. KIR'YANOV, V. G. ABRAMOVICH, I. V. GUTKIN, A. S. ALIMPIYEV, G. B. PAUKOV, AND A. S. YEGUDKIN, HAVE BEEN SUBMITTED BY THE COMPUTATION CENTER OF THE ACADEMY OF SCIENCES AND THE MINISTRY OF THE MACHINE TOOL CONSTRUCTION AND TOOL INDUSTRY, RESPECTIVELY.

"THE RADICALLY IMPROVED MELTING TECHNOLOGY OF CRITICAL-PURPOSE HIGH-ALLOY STEELS AND ALLOYS OF IMPROVED QUALITY ACHIEVED BY THE INERT GAS TREATMENT OUTSIDE THE FURNACE", BY YU. V. GERASIMOV, O. M. CHEKHOMOV, N. V. SIDOROV, S. K. FILATOV, B. A. CHEREMNYKH, R. M. KHAYRUTDINOV, I. P. BARMOTIN, L. K. KOSYREV, K. P. BAKANOV, N. N. VLASOV, P. I. MELIKHOV, AND N. A. TULIN, HAS BEEN SUBMITTED BY THE ZLATOUST METALLURGICAL PLANT.

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KZ

Reel/Frame

19870556

1/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--CHARACTER OF CHEMICAL BONDS IN A VANADYL COMPLEX FOR SOME OXIDE GLASSES STUDIED FROM PARAMAGNETIC RESONANCE AND ELECTRON ABSORPTION

AUTHOR-(05)-BOGOMOLOVA, L.D., DOLGOLENKO, T.F., LAZUKIN, V.N., NOZDRINA, YE.N., PETROVYKH, N.V.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(1), 54-7

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--VANADIUM COMPLEX, OXIDE GLASS, EPR SPECTRUM, MOLECULAR ORBITAL, GLASS COMPOSITION, CHEMICAL BONDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0505 STEP NO--UR/0020/70/191/001/0054/0057

CIRC ACCESSION NO--AT0113396

UNCLASSIFIED

2/2 014 UNCLASSIFIED

CIRC ACCESSION NO--AT0113396 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ELECTRON ABSORPTION AND PMR SPECTRA OF VO PRIME2POSITIVE IN B SUB2 O SUB3NEGATIVE BAO MINUS V SUB2 O SUB5, SIO SUB2 MINUS BAO MINUS V SUB2 O SUB5, AND P SUB2 O SUB5 MINUS BAO MINUS V SUB2 O SUB5 GLASSES (CONTG. 1-5PERCENT V SUB2 O SUB5) WERE MEASURED AT LIQ.-N TEMPS. AS A FUNCTION OF THE GLASS COMPN. THE NEW EXPTL. DATA AND THE EARLIER PUBLISHED DATA ON THE EPR SPECTRA OF V GLASSES (B., ET AL. 1967) WERE INTERPRETED WITHIN THE MO THEORY. THE RESULTS SUGGESTS THAT IN THE GLASSES STUDIED, VANADYL FORMS C SUB4V TYPE SYMMETRY COMPLEXES AND THE UNPAIRED ELECTRON IS LOCALIZED ON THE B SUB2G TYPE ORBITAL, CONSTRUCTED FROM 3D SUBXY ORBITAL OF V PRIME4POSITIVE AND 2RHO ORBITALS OF O LIGANDS. THE COEFFS. BETA SUB1 AND BETA SUB1 PRIME AT THE ED SUBXYNEGATIVE AND 2RHO ORBITALS, RESP., ARE DETD. BY THE DEGREE OF LOCALIZATION OF THE UNPAIRED ELECTRON ON THE RESP. ORBITALS AND, THEREFORE, CHARACTERIZE THE PI BONDING IN THE EQUATORIAL PLANE OF THE COMPLEX. ANALOGOUS, B SUB1EPSILON ORBITAL OF THE COMPLEX IS CONSTRUCTED FROM 3D SUBX PRIME2 MINUS SUBY PRIME2 ORBITALS OF V PRIME4POSITIVE AND RHO ORBITALS OF THE VANADYL O AND THE CORRESPONDING COEFFS. (SLPHA AND GAMMA) AT THE D FUNCTIONS CHARACTERIZE THE SIGMA BONDING IN THE EQUATORIAL PLANE AND THE PI BONDING OF V WITH THE VANADYL O. EVALUATION OF THE PARAMETERS OF CHEM. BONDS BY THE MO LCAO METHOD CONFIRMED THAT THE COVALENCY OF PI AND SIGMA BONDS IN THE V COMPLEX INCREASES WITH THE AMT. OF THE GLASS FORMING AGENT IN THE ORDER P SUB2 O SUB5 YIELDS SIO SUB2 YIELDS B SUB2 O SUB3.

UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

FACILITY: MOSK. GOS.

UNCLASSIFIED

Acc. Nr.: AP0032057 Ref. Code: UR 0477

PRIMARY SOURCE: Zdravookhraneniye Belorussii, 1970, Vol 16, Nr 1, pp 26-30

INJURIES OF THE TALOCRURAL JOINT AND THEIR TREATMENT

L. Ja. Grigoryev, V. P. Dolgolikov

SUMMARY

The paper basing on the studies of 392 patients with dislocated fractures of the malleoluses gives the clinical picture, diagnosis and methods of their treatment. The classification of injuries takes into account the anatomo-biomechanical peculiarities of the talocrural joint structure.

Having studied the remote results of treatment from 1 to 10 years running the authors ascertain that a one-moment manual reposition of the fracture with a following application of plaster-of-Paris cast is the principal method of treatment, they gives evidence to an operative interference and employment of the diafixation method of broken-off parts by the Kirschner spokes and they also take into account the causes of unsatisfactory outcomes.

VERY POOR QUALITY ORIGINAL

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REEL/FRAME 19700226

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1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--INVESTIGATING THE TEMPERATURE FIELDS OF BRAKING IN THE TURBINE STAGE -U-
AUTHOR-(02)-ZHUKOVSKIY, G.V., DOLGOPLOSK, YE.B.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, ENERGOMASHINOSTROYENIYE, NO. 2, 1970, PP 12-15

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, ENERGY CONVERSION (NON-PROPULSIVE)
TOPIC TAGS--TURBINE STAGE, BIBLIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1635 STEP NO--UR/0114/70/000/002/0012/0015

CIRC ACCESSION NO--AP0120390
UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120390

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DESCRIPTION IS PRESENTED FOR AN EXPERIMENT ON STUDYING THE TEMPERATURE FIELDS OF BRAKING IN A FLOW, WHICH PASSES THROUGH A TURBINE STAGE. THE EXPERIMENTS WERE CONDUCTED IN AN EXPERIMENTAL AIR TURBINE AND THEY SHOWED THAT IN BREAKING AWAY ZONES, EDGE WAKES, EDDIES OF SECONDARY CURRENTS AND IN BUTT WALLS, THE TEMPERATURE OF BRAKING IS LOWERED, WHEN IN ADJACENT REGIONS SECTORS OF HIGHER COMPLETE TEMPERATURE ARE POSSIBLE. AS THE CAUSE OF THIS PHENOMENON INTERNAL ENERGY EXHANGE IS INDICATED, WHICH EXCHANGE TAKES PLACE IN A REAL NONUNIFORM FLOW. FOR THE STAGE BEING STUDIED AN EVALUATION OF THE INTEGRAL EFFECT OF THE INTERNAL ENERGY EXCHANGE IS CONDUCTED. THE ENERGY EXCHANGE WAS APPROXIMATELY THREE PERCENT. IT IS SHOWN THAT THE EFFECT FIELDS BEYOND THE TEST STAGE ARE NOTICEABLY DIFFERENT FROM THE PICTURE, WHICH SHOULD APPEAR FROM THE DESIGNS ACCORDING TO THE EQUATIONS FOR A ONE DIMENSIONAL FLOW. FIVE ILLUSTRATIONS; BIBLIOGRAPHY CONTAINS FIVE CITATIONS.

UNCLASSIFIED

USSR

RYKALIN, N. N. (Academician), Institute of Metallurgy, Academy of Sciences USSR; REBINDER, P. A. (Academician), Institute of Physical Chemistry, Academy of Sciences USSR; and DOLGOPOLOV, N. N. (Candidate of Technical Sciences), VNIIZhELEZOBETON (All-Union Scientific Research Institute of Industrial Technology of Precast Reinforced Concrete Structural Parts and Products)

"Application of Low-Temperature Plasma in the Technology of Structural Materials"

Moscow, Stroitel'nyye materialy, No 1, Jan 72, pp 7-8

Abstract: Discussed are recent developments by Soviet scientists in low-temperature plasma processes for use in construction and structural processes. Various types of plasmochemical equipment based on plasma generators are cited of which jet-arc, high-frequency, and superhigh-frequency (or microwave) plasmatron models found extensive applications. The distinctive features and capabilities of these plasma generators are detailed. Research conducted by the Soviet institutes in the last ten years resulted in the formulation of basic thermodynamic and kinematic processes as well as in designs of new high-power plasma equipment in the ten- and hundred-Mc range. Plasma processes include spray coating techniques, plasma

USSR

RYKALIN, N. N., (Academician), Institute of Metallurgy, Academy of Sciences USSR; et al, Stroitel'nyye materialy, No 1, Jan 72, pp 7-8

metallization of reinforced concrete, ceramics with aluminum, copper and superhigh-refractory and corrosion-resistant metals such as titanium and stainless steels. Experimentation with other plasma processes involves welding and cutting of refractory metals, rock, granite, gabbro, quartz, and application to mining and recovery processes. Particular emphasis is placed on plasma methods for producing highly disperse metal and mineral powders, particle spheroidization, silica- and titanium dioxide-base active fillers and dyes and pigments for the polymeric materials industry. The priority problems relative to plasma applications include advancement of automatic control systems and optimization of flow charts and individual equipment for the plasma industry.

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AA0038813

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3-76

238133 WELDING PLASTICS is based on maintaining an interelectrode gap which varies according to cosine law. Due to wave-type propagation of the h.f. energy, and on account of forming standing electromagnetic waves in the material the voltage across the capacitor and the field intensity are a function of the gap. 27.4.66. as 1072314/25-27, KOVAL'CHUK, V.A. et al. New Structural Materials Res. Inst. (1.7.69.) Bul. 9/20.2.69. Class 39a^2 Int. Cl. B 29c.

LD 1

AUTHORS: Koval'chuk, V. A.; Drozdov, V. M.; and Dolgopolov, N. N.

Vsesoyuznyy Nauchno - Issledovatel'skiy Institut Novykh Stroitel'nykh Materialov

19740023

USSR

UDC: 539.3

DOLGOPOLOV, V. M.

"Large Flexures of a Circular Orthotropic Annular Plate of Variable Thickness"

V sb. Nekotor. zadachi teorii uprugosti o kontsentratsii napryazh. i deformatsiy uprug. tel. Vyp. 6 (Some Problems of Elasticity Theory on the Concentration of Stresses and Strains of Elastic Bodies--collection of works, No 6), Saratov, Saratov University, 1971, pp 89-97 (from RZh--Mekhanika, No 7, Jul 72, Abstract No 7V150)

Translation: Nonlinear differential equations are used as a basis for solving the problem of symmetric bending of circular orthotropic annular plates whose thickness is an exponential function of radial distance. The problem is solved by the perturbation method. Loading is taken as the perturbation parameter. In a computational example, the author analyzes a plate with an absolutely rigid central inset securely clamped at the outer edge and subjected to a concentrated central force. Numerical results are given for plates made from KAS1-V material. It is concluded from comparing the results with solution by the Bubnov method that the volume of the calculations by the perturbation method is much smaller.
V. M. Kulakov.
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USSR UDC 539.3

DOLGOPOLOV, V. N.

"Bending of a Round Orthotropic Plate of Variable Thickness"

V sb. Nekotoryye zadachi prikl. teorii uprugosti (Some Problems of Applied Elasticity Theory--collection of works), Saratov, 1971, pp 44-50 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11V182)

Translation: The solution of the problem of axisymmetric bending of a plate under the effect of a uniformly distributed load with small deflections is presented. The plate thicknesses h are assumed to vary by the law

$$h = h_0(1 - \lambda s^k)$$

where h_0 is the thickness in the center of the plate; k, λ are constants ($0<\lambda<1$); $s = r/R$; r, R are the current and external radii of the plate, respectively.

The solution for deflection was obtained in hypergeometric functions. The solution for bending moments was obtained for a plate without a hole. The numerical calculations were performed on the Ural-2 computer for values of $k = 1$, 2 and $\lambda = 0.1$, 0.3, 0.5 for three materials (fiberglass, steel, KAST-V). Stress tables are presented for certain values of s and deflections in the center of

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USSR

DOLGOPOLOV, V. M., Nekctoryye zadachi prikl. teorii uprugosti, Saratov, 1971, pp 44-50

the plate. A strong effect of variability of thickness of the plate on the magnitude of the stresses (especially at the edge of the plate) and the deflection is detected. On varying λ from 0.1 to 0.5, the deflection doubles.

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USSR

UDC 8.74

DOLGOPOLOV, V. N., GONDAREV, V. P., PANOV, D. K., KOSTORNICHENKO, V. G., FEDORENKO, I. I.

"Generator of Normal Discrete Random Processes with a Given Correlation Function"

V sb. Regional'n. nauch.-tekhn. seminar po stat. analizu, modelir. i avtomatiz. kontrolya ob'yektov s konstruktivnoslozh. strukturoy (Regional Scientific and Technical Seminar on Statistical Analysis, Simulation and Automation of the Control of Objects with Structurally Complex Structure -- collection of works), vyp. 3, Taganrog, 1971, pp 13-21 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V562)

No abstract

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USSR

UDC: 681.332.65

DOLGOPOLOV, V. N., BOVKUNENKO, O. A., KOCHKONOGOV, A. S., KOSTORNICHENKO, V. F., Taganrog Radio Engineering Institute

"A Device for Stabilizing the Average Frequency in Random Pulse Generators"

USSR Author's Certificate No 291213, filed 22 Sep 69, published 29 Mar 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct 71, Abstract No 10B223 P)

Translation: The device can be used for stabilizing the intensity of any random pulse train varying over a wide range. Streams of random pulses with stabilized intensity are used in studying various queuing systems, determining the interference suppression of data transmission systems, and modeling various technical systems. Devices are known for stabilizing the average frequency in random pulse generators. These devices are constructed on the principle of automatic control of the noise discrimination level and contain converters, filters, a comparison circuit, and an amplifier. The purpose of the invention is to simplify the electrical circuit of the stabilization device, to improve its reliability by reducing the number of component

USSR

DOLGOPOLOV, V. N. et al., Soviet Patent No 291213

parts in the circuit, and to provide stabilization of the average frequency throughout the entire range of variation without additional switching in the feedback circuit, while maintaining effective and simple control of the average frequency of the random pulse generator. In the proposed device, which is constructed on the principle of a closed automatic control system and contains a random pulse generator, a device for converting the average frequency of the random pulses to DC voltage, a DC amplifier, a low-frequency filter and a device for regulating the average frequency, the above-mentioned purpose is achieved by combining the comparison element, DC amplifier, and device for controlling the average frequency of the random pulses into a bridge-type balanced DC amplifier. Two illustrations.

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USSR

UDC 681.332.65

VASIL'YEV. V.I.. DOLGOPOLOV. V.N., et al.

"Poisson Random Pulse Flow Generator"

USSR Author's Certificate No. 273565, Filed 17/03/69, Published 14/09/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No. 4, 1971, Abstract No. 4B235P).

Translation: Poisson randin pulse flow generators consisting of a primary noise source, a wide-band amplifier, and a shaper are used to model flows of independent random events. The noise voltage is amplified to the necessary level by the wide-band amplifier and fed to the input of the shaper which produces short pulses of constant amplitude and duration at the moment in time when the noise voltage and its input exceeds the operating threshold. The purpose of this invention is to increase the flow density, with a fixed speed of operation of the shaper, or decrease the requirements for the shaper speed, for a fixed density, with a high degree of approximation of the output flow to a Poisson flow and insignificant complication of the circuit in comparison to ordinary generators. This goal is achieved by using 2 shapers in the generator having operating thresholds identical in magnitude but opposite in sign. The use of 2 identical shapers with opposite thresholds allows

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UDC 681.332.65

VASIL'YEV, V.I., DOLGOPOLOV, V.N., et al., USSR Author's Certificate No. 273565, Filed 17/03/69, Published 14/09/70.

shapers with operating speeds only half as great to be used as when one shaper must be used. The pulses at the outputs of the shapers appear at moments in time which do not correspond and, with the proper selection of threshold values, are practically independent. 1 fig.

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USSR

UDC 621.395.385.4

DOLGOPOLOV, V. N., VASIL'YEV, V. I., KOCHKONOGOV, A. S.

"Multichannel Additive Noise Imitator"

Leningrad, Priborostroyeniye, No 5, 1970, pp 5-8

Abstract: Description is given of a multichannel imitator of fluctuating and pulse noise, a development of the Taganrog Radio Engineering Institute, bearing the type number MIP-2. It is a modification of a preceding model, type MIP-1. The purpose of the newer device is to investigate the noise immunity of remote control, acoustic, telephone, electronic, and other equipment under laboratory conditions. It can also be used as the transmitter of random analog functions and random pulse signals in the design of random number generators, system modeling devices for mass servicing, as well as biological and hydroacoustic systems. It is all transistorized, and its block arrangement -- the diagram of which is given -- includes such units as a four-range noise oscillator with several distribution laws, a two-channel pulse noise oscillator, a block for forming various regular and random noise samples, a device for stabilizing the effective noise voltage, a circuit for modulating the amplitude of random pulses according to internal and external modulating voltages, and an arrangement for measuring the output intensity. A full list of technical specifications for the device is presented.
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USSR

UDC: 538.566

DEMCHENKO, V. V., DOLGOPOLOV, V. V., and OMEL'CHENKO, A. Ya.

"Effect of a High-Frequency Potential on the Distribution of Fast TM Waves Along a Plasma Layer"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, vol 17, No 2, 1972, pp 203-209

Abstract: The authors, members of the Physico-technical Institute of the Ukrainian SSR Academy of Sciences in Kharkov, theoretically investigate the effect of a high-frequency potential on fast TM wave distribution when a plane-parallel plasma layer is placed between ideally conducting plates. The case of high amplitudes, in which the pressure of the high-frequency field is much greater than the gas kinetic plasma pressure, is considered. Expressions are obtained for the dielectric permeability at the plasma-vacuum interface and for the dispersion. A connection between the frequency of the TM wave and the wave number is found. The opposite case for low amplitudes, when the high-frequency field pressure is much lower than the plasma gas kinetic pressure, is also investigated. It is found that while the electromagnetic field

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710002-7"

USSR

DEMCHENKO, V. V., et al., Ukrainskiy Fizicheskiy Zhurnal, Vol 17, No 2, 1972, pp 203-209

does not penetrate the plasma due to the skin effect, in the linear approximation the high-frequency field may result in such penetration. Acknowledgment of the assistance of K. N. Stepanov is given.

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USSR

UDC: 681.3:51

AYLAMAZYAN, A. K., BELOTELOV, V. P., DOLGOPOLOV, V. V., KRAVTSOV, V. G., LOZA, T. M., MARKINA, N. V., KHAKHIN, M. D.

"A Device for Computing Aerodynamic Parameters"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 23, 1970, Author's Certificate No 276528, Filed 28 May 69

Abstract: This Author's Certificate introduces a device for computing aerodynamic parameters such as altitude, velocity, and Mach number. The unit contains converters of primary information to binary code which are connected through a shift register and adder to the input of an arithmetic device. Also included in the computer are a memory unit, decoder, pulse generator, control device, and recording unit. As a distinguishing feature of the patent, the electrical circuit is simplified and the overall dimensions are reduced by connecting the most significant digital places of one of the registers in the arithmetic device to the least significant digital places of the address section of the command register in the control unit through diodes controlled by the decoder and the pulse generator. The most significant digital places of the address section and the code section of the command register in the control device are connected to the memory unit.
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1/2 029 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ON THE NATURE OF COLLISIONLESS ATTENUATION OF ELECTROMAGNETIC WAVES IN REGIONS OF STRONG INHOMOGENEITY OF A COLD PLASMA -U-
AUTHOR-(02)-DOLGOPOLOV, V.V., OMELCHENKO, A.YA.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 4, PP 1384-1394
DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTROMAGNETIC WAVE DISPERSION, LOW TEMPERATURE PLASMA, SURFACE WAVE, PLASMA DENSITY, INHOMOGENEOUS PLASMA, PLASMA OSCILLATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/1724 STEP NO--UR/0056/70/058/004/1384/1394

CIRC ACCESSION NO--AP0106455
UNCLASSIFIED

2/2 029 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0106455

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTROMAGNETIC OSCILLATIONS DUE TO AN INITIAL PERTURBATION AT THE BOUNDARY OF A SEMI INFINITE PLASMA AND VACUUM ARE INVESTIGATED BY TAKING INTO ACCOUNT FINITENESS OF THE TRANSITION ZONE BETWEEN THE HOMOGENEOUS PLASMA AND VACUUM AND ALSO IN A NONUNIFORM PLANE PARALLEL PLASMA LAYER IN THE CASE WHEN THE WAVELENGTH OF THE WAVE MOVING ALONG THE LAYER IS MUCH GREATER THAN THE LAYER WIDTH. IT IS SHOWN THAT FOR A PERIOD DEFIEND BY THE WIDTH OF INHOMOGENEOUS REGION, THE SURFACE WAVES PRODUCED BY THE INITIAL DISTURBANCE COMPLETELY CHANGE INTO LANGMUIR OSCILLATIONS ALONG THE DIRECTION OF THE PLASMA DENSITY GRADIENT; THE OSCILLATIONS ARE CONCENTRATED IN THE VICINITY OF THE POINT OF PLASMA RESONANCE FOR THE SURFACE WAVE FREQUENCY. THIS REGION COMPRISES A SMALL PART OF THE INHOMOGENEOUS REGION OF THE PLASMA. IF THE INHOMOGENEITY REGION WIDTH OF THE MEDIUM IS COMPARABLE WITH THE WAVELENGTH, OSCILLATIONS OF A GIVEN FREQUENCY IN GENERAL WILL NOT EXIST AT DIFFERENT POINTS OF THE INHOMOGENEOUS MEDIUM. IN THE GENERAL CASE (FOR AN ARBITRARY RATIO BETWEEN THE WAVELENGTH AND CHARACTERISTIC DIMENSION OF THE INHOMOGENEITY) LANGMUIR OSCILLATIONS (WITH DIFFERENT FREQUENCIES AT VARIOUS POINTS OF THE INHOMOGENEOUS MEDIUM) WILL REMAIN AS A RESULT OF DEVELOPMENT OF THE INITIAL PERTURBATION. THE EFFECTIVE WAVE VECTOR OF THE OSCILLATIONS ALONG THE PLASMA DENSITY GRADIENT INDEFINITELY GROWS WITH TIME. FACILITY: FIZIKO TEKHNICHESKIY INST., AN UKR. SSR.

UNCLASSIFIED

USSR

TANEYEVA, A. I., and DOLGOPOL'SKAYA, M. A., Institute of the Biology of Southern Seas, Ukrainian SSR Academy of Sciences, Sevastopol

"The Effects of a Constant Magnetic Field on Artemia salina M. Edw. Eggs"

Moscow, Biofizika, Vol 18, No 5, Sep/Oct 73, pp 944-946

Abstract: Moist and dry Artemia salina eggs were exposed to a 2000 erg permanent magnetic field (PMF) for 3, 6, 12, 24, 72, or 96 hours, followed by incubation at 23-25° until the larva hatched. The resultant data showed that exposure to PMF for up to 24 hours had a stimulating effect on hatching, while longer periods of exposure inhibited hatching. There were no statistically significant differences between dry and moist eggs.

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USSR

UDC 577.472;542.98;667.61

DOLGOPOL'SKAYA, M. A., GUREVICH, Ye. S., GEYNE, Ye. I., SHCHERBAKOVA, L. I.

"Concerning the Procedure of Accelerated Tests on Antifouling Paints"

Kiev, Biologiya Morya -- Sbornik (Biology of the Sea--Collection of Works), No 18, The Biology of Fouling, 1970, pp 52-60

Abstract: During the development of new antifouling coatings, it is of great significance to establish the biological activities of the employed poisons as well as the rate and duration of their leaching out into sea water. The biological method of determining the effectiveness of paint, in distinction from the glycine method, permits the evaluation of any kind of paint, including those not containing copper compounds. Use of the hay bacillus or marine bacteria as an object of biological control may serve as a method of the comparative evaluation of effectiveness only for paints with a different film-forming base, but with identical composition of the poisons. As a test object for testing paint activity, the authors propose the use of daphnia,

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USSR

DOLGOPOL'SKAYA, M. A., et al., Biologiya Morya -- Sbornik, No 18, 1970, pp 52-60

cultured and adpated to water of 6‰ salinity. This method gives convincing results and may be used for evaluating the biological activity of paints the year round in a region far from the sea. 2 tables. 6 bibliographic entries.

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USSR

UDC 667.61:577.472

DOLGOPOL'SKAYA, M. A., GUREVICH, Ye. S., DEGTYAREV, P. F.

"Testing Antifouling Paints under Tropical Conditions"

Kiev, Biologiya Morya -- Sbornik (Biology of the Sea -- Collection of Works), Vol 18, The Biology of Fouling, 1970, pp 40-52

Abstract: In the article are presented the results of tests on new antifouling paints under stationary conditions in the Gulf of Mexico in the Havana region as well as on two ocean-fishing ships, the "G. Uspenskiy" and the N. Ostrovskiy," traveling in the waters of the Atlantic Ocean (17 - 23°S and 5° W). Out of a large assortment of antifouling paints, the best results under tropical conditions were obtained in the testing of thermoplastic paint TPK-86, KR-24, KhV-53, KF-751, KhV-71, and KhS-79. These paints afford reliable protection against fouling not only in the Black Sea, but also under tropical conditions. The best results, both with respect to protection against fouling and with respect to film stability, were obtained as a result of the use of new synthetic-base antifouling paints. It was established that the effectiveness of antifouling paint is determined not only by

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710002-7"

USSR

DOLGOPOL'SKAYA, M. A., et al., Biologiya Morya -- Sbornik, Vol 18, 1970, pp 40-52

a sufficient leaching-out rate of the poisons, but also by the reserve of the poisons in the coating. With a high leaching-out rate of the poison and a small reserve of it in the paint, it is rapidly expended and the paint becomes fouled. Under tropical conditions there is observed a higher leaching-out rate of the poison and a lower resistance of the fouling-organism larvae to the poisons. 2 tables. 20 figures. 5 bibliographic entries.

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USSR

UDC 577.742:667.6

DOLGOPOL'SKAYA, M. A.

"Relationships Among the Surface of Antifouling Paint, Sea Water, and Fouling Organisms"

Kiev, Biologiya Morya -- Sbornik (Biology of the Sea -- Collection of Works), No 18, The Biology of Fouling, 1970, pp 26-40

Abstract: The problem of fouling is justifiably evolving into an independent field of research, where in addition to study of the composition, biology, and ecology of the fouling organisms, much attention is being devoted to a search for antifouling means and methods. In the opinion of the author, fouling at sea, caused in the first instance by the presence of free-floating larvae that are ready to settle, may take place on a freshly immersed non-toxic surface both before the development of a primary mucous film on it, and after the formation of such a film. This depends upon the readiness for settlement, the specifics of behavior, and the relationship of various kinds of larvae to the substratum. The basic condition for the development of effective antifouling means is finding out the mechanism of their action. Depending upon the paint base and the poisons entering into it, the bacterial

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USSR

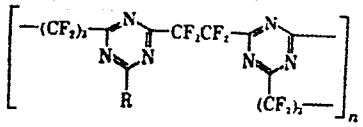
DOLGOPOL'SKAYA, M. A., Biologiya Morya -- Sbornik, No 18, 1970, pp 26-40

film can exert either a favorable influence or an unfavorable one. Destroying the film-forming paint base (including water-insoluble polymers), marine bacteria facilitate the emergence of poisons from the paint, thereby increasing its protective properties. If the paint base contains bacterial substances or if the film-forming base is not subject to bacterial action, the bactericidal substances either play no part at all, or may even diminish the qualities of the paint. In such cases the effectiveness of paints depends basically upon physicochemical factors -- the nature and the volumetric concentration of the poisons, the temperature, the salinity, the pH. 23 bibliographic entires.

2/2

Acc. Nr: AP0052535 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: 4R0460

101336f **Synthesis and characteristics of some perfluoroalkylenetriazine polymers.** Fedorova, G. B.; Dolgopol'skii, I. M. (USSR). *Vysokomol. Soedin., Ser. B* 1970, 12(1), 14-16 (Russ). The polycondensation of $RC(:NH)NH_2$ (H. C. Brown, 1960 and U.S. 3,086,946) with perfluoroglutaroimidine (I) gave II [R =



(II)

CF_3, CF_3CF_2, $CF_3CF_2CF_2$, $CF_3(CF_2)_3$, or $CF_3(CF_2)_5$], which are stable to ~400°, and resist radiation and the action of strong oxidizing agents. The size of R above C_4 has no effect on the properties of II. Besides the copolycondensation, there is also crosslinking of II with I.

CPJR

REEL/FRAME
19821178

Acc. Nr. AP0042049 Abstracting Service: CHEMICAL ABST. 4/70 Ref. Code 4R0366

89693k Synthesis of thiocarbonyl fluoride by the co-pyrolysis of sodium perfluoropropionate with sulfur. Gubanov, V. A.; Dolgopol'skii, I. M.; Brettske, E. B. (USSR). *Zh. Org. Khim.* 1970, 6(1), 185 (Russ). The pyrolysis at 600–700° of tablets prepd. by compressing powd. $F_3CCF_2CO_2Na$ with S, gave ≤ 26% F_2CS, $CF_2{:}CF_2$, $F_3CCF{:}CF_2$, perfluorocyclobutane, and 1,1,2,2-tetrafluoro-3,4-dithiacyclobutane. All these products can be formed from F_2C: or by its reactions with S. CPJR

REEL/FRAME
19751946

USSR

UDC 621.38:61

DOLGOPYATOV, R.M., KATS, L.I., SMOLYANSKIY, S.A.

"Concerning The Possibility Of The Use Of High-Frequency Magnetic Fields For Creation Of Systems Of Modulation And Demodulation Of Laser Radiation"

V sb. Ispol'z. optich. kvant. generatorov. v sovrem. tekhn. i med. Ch. 2-3 (Use Of Lasers In Contemporary Technology And Medicine. Parts 2-3--Collection Of Works), Leningrad, 1971, pp 12-15 (from RZh:Elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2A526)

Translation: A formula is derived for computation of the amplitude modulation factor of laser radiation in a variable magnetic field. With H = 12 oersted a percentage of modulation of 17 percent is reached with a frequency of 44 MHz. For excitation of a modulating magnetic field of a frequency of 22 MHz, the long line of a spiral wound on the laser tube is used. Demodulation took place at a receiver acted upon by the photoelectromagnetic effect with use of a similar artifical long line. 3 ill. 2 ref. L. Sh.

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USSR

UDC: 621.376:530.145.6

DOLGOPYATOV, R. M.

"Dispersion of a Waveguide Used in a Traveling-Wave Laser Modulator"

Elektron. tekhnika. Nauchno-tekhn. sb. Tekhnol. i organiz. proiz-va (Electronic Technology. Scientific and Technical Collection. Production Techniques and Organization), 1970, vyp. 2(34), pp 115-118 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D404)

Translation: The dispersion of the decelerating system in a laser emission modulator is calculated. Resumé.

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1/2 045 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--THE EFFECT OF LASER FIELD STRUCTURE ON THE SPECTRUM OF MODULATED RADIATION -U-

AUTHOR-(03)-DOLGOPYATOV, R.M., KATS, L.I., SMOLYANSKIY, S.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, RADIOTEKHNIKA, NO 2, 1970, PP 48-52

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MULTIMODE LASER, LASER MODULATION, MODULATION SPECTRUM, SUPERHIGH FREQUENCY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1283 STEP NO--UR/0108/70/000/002/0048/0052

CIRC ACCESSION NO--AP0123242

UNCLASSIFIED

2/2 045 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123242

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDY THE EFFECT OF THE COMPLEX STRUCTURE OF A LASER, WHERE THE STRUCTURE IS CONDITIONED BY THE PRESENCE OF MULTIMODALITY, ON THE SPECTRUM OF MODULATED RADIATION. THE CALCULATIONS ARE MADE FOR A KERR CELL TYPE MODULATOR OPERATING IN THE SUPER HIGH FREQUENCY RANGE.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SPLENOPORTOGRAPHY IN THE CLINICS OF THE MONGOLIAN PEOPLE'S REPUBLIC
-U-
AUTHOR-(02)-DOLGOR, P., GOOSH, B.

COUNTRY OF INFO--USSR

SOURCE--EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTEZIOLOGIYA, 1970, NR 3, PP 22-24
DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIVER DISEASE, SPLEEN, BLOOD CIRCULATION, DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0913 STEP NO--UR/0481/70/000/003/0022/0024

CIRC ACCESSION NO--AP0126572
UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0126572
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AUTHORS REPORT ON 120 SPLENOPORTOGRAPHIES FROM THE SURGICAL DEPARTMENT OF THE FIRST CLINICAL HOSPITAL OF ULAN-BATOR, MONGOLIAN PEOPLE'S REPUBLIC. AUTHORS' MATERIAL AND LITERATURE DATA PERMITS DIAGNOSIS OF PORTAL HYPERTENSION. 39 CASES OF SPLENOPORTOGRAPHY ENABLES TOPICAL DIAGNOSIS OF ECHINOCOCCAL LIVER CYSTS. SPLENOPORTOGRAPHY UNDER INTRAVENOUS ANAESTHESIA WITH MUSCLE RELAXANTS IMPROVES THE QUALITY OF SPLENOPORTOGRAMMES. FAICLITY: ULAN BATORSKIY MEDITSINSKIY INSTITUT.

UNCLASSIFIED

USSR

UDC (546.821+546.883):543.062

PAL'NIKOVA, T. I., DOLGOREV, A. V., and GRIBOVA, L. I., Bereznikovsk Branch of the All-Union Scientific Research and Design Institute of the Aluminum, Magnesium, and Electrode Industry

"Method of Quantitative Discrimination and Subsequent Determination of Titanium and Tantalum in Niobium Products"

Moscow, Zavodskaya Laboratoriya, Vol 39, No 9, 1973, pp 1045-1047

Abstract: The authors have studied the conditions for discrimination and determination of titanium and tantalum in technical niobium hydroxide. They developed a method of separating titanium from several solutions by using chloroform to extract its complex with stannic chloride and other solutions. The extract produced is suitable for the quanti-

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710002-7"

USSR

PAL'NIKOVA, T. I., et al., Zavodskaya Laboratoriya, Vol 39, No 9, 1973, pp 1045-1047

tative determination of titanium. Conditions were developed for the spectrophotometric determination of tantalum in an oxalate solution after separation of the titanium. The accuracy of the method for 0.5-2.5% TiO_2 is 10.5-2% and for 1.5-7% Ta_2O_5 it is 3-8%.

Figure 1 shows the dependence of optical density of chloroform extracts on concentration of tartaric acid and ammonium oxalate. Figure 2 illustrates the spectrophotometric characteristics of aqueous solutions. The table illustrates determination of Ta_2O_5 and TiO_2 in technical niobium hydroxide.

The article contains 2 illustrations and 1 table.

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USSR UDC 612.015.14:577.153.9

DOLGO-SABUROV, V. B., Institute of Toxicology, Ministry of Health USSR, Leningrad

"Catalytic Properties of Cholinesterase Isozymes"

Moscow, Voprosy Meditsinskoy Khimii, Vol 18, No 1, Jan/Feb 72, pp 98-101

Abstract: Using electrophoresis in agar gel, the author extracted from rabbit brain three fractions (I, II, III) of cholinesterase which resembled acetylcholinesterase with respect to their properties. This was especially evident from values of $K_m \cdot 10^4$ (moles) obtained during hydrolysis of the obtained fractions with acetylcholine (K_m = 3.10, 0.48, 0.43 for fractions I, II, and III, respectively), butyrylcholine (K_m = 18.40, 35.80, 17.80 for fractions I, II, III, respectively, and acetyl-β-methylcholine (K_m = 4.25, 3.33, 4.00 for fractions I, II, III, respectively). The ability of isozymes to hydrolyze not only acetylcholine but also butyrylcholine (although much slower) suggest the existence of acetylcholinesterase complexes with pseudocholinesterase. Values of K_m, V, k_{+1} (rate constant of Michaelis-Menten complex formation), V_m (catalytic activity center), and pH for all fractions are tabulated and discussed. Acetylcholine, butyrylcholine, and acetyl-β-methylcholine were used in different concentrations and at different pH for

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USSR

DOLGO-SABUROV, V. B., Voprosy Meditsinskoy Khimii, Vol 18, No 1, Jan/Feb 72, pp 98-101

all fractions. The obtained results indicate that differences in kinetic parameters of cholinesterase isozymes are not connected directly with catalysis characteristics on the active surface of most molecular forms. They can be attributed to properties of the quarternary structures of isozymes.

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USSR

UDC 577.1.53.9:577.23

DOLGO-SABUROV, V. B., and PANYUKOV, A. N.

"Molecular Heterogeneity of Cholinesterases"

Moscow, Voprosy Meditsinskoy Khimii, Vol 16, No 1, Jan/Feb 70, pp 31-36

Abstract: Separation by agar electrophoresis indicated that cholinesterases are present in the blood serum and tissues (liver, striated thigh muscle, mycardium) of rats in multiple molecular forms, constituting isoenzymes. As indicated by a determination of activities on the electrophoregrams by means of acetylthicocholine and butyrylthicoholine, an individual spectrum of isoenzymes was exhibited by every tissue. Upon addition of tetraisopropylpyrophosphate, which acts as a cholinesterase inhibitor, to the tissue extracts before separation, the activity of individual cholinesterase isoenzymes was inhibited to different degrees against a background of partial inhibition of the overall cholinesterase activity of the extract.

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Acc. Nr: AP0037223

Ref. Code: UR 0301

PRIMARY SOURCE: Voprosy Meditsinskoy Khimii, 1970, Vol 16, Nr 1, pp31-36

THE MOLECULAR HETEROGENEITY OF CHOLINE ESTERASES

Dolgo-Saburov, V. B.; Panyukov, A. N.

By means of electrophoresis in agarose gel it was shown that in rabbit tissues and blood serum choline esterases presented as numerous molecular forms-isoenzymes. Each of the organs tested is characterized by the specific spectra of isoenzymes. The pronounced decreases in activity of several isoenzymes isolated from tissues and blood serum was noted after the addition of phosphoorganic inhibitor (tetraisopropylpyrophosphate) on the background of partial inhibition of total choline esterase activity.

Acc. Nr: AP0038035

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Éksperimental'noy i Teoreticheskoy Fiziki, 1970, Vol 58, Nr 1, pp 130-132

IDENTIFICATION OF HIGH ENERGY PARTICLES IN A STREAMER CHAMBER

Davidenko, V. A.; Dolgoshein, B. A.; Somov, S. V.; Starosel'tsev, V. N.

Relativistic growth of the specific primary ionization is measured in the following mixtures: 50 torrs Ne + 50 torrs He + 2 torrs H_2O and 320 torrs Ne + 320 torrs He. The accuracy of the measurements is 2.5%. The possibility of employing a streamer chamber for separation with respect to mass of particles with momenta up to 200 GeV/c is discussed.

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REEL/FRAME 19731077

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USSR

UDC 539.12.01

DOLGOV, A. D., ZAKHAROV, V. I., and OKUN', L. B.

"$K_L \rightarrow 2\mu$ Decay"

Moscow, Uspekhi Fizicheskikh Nauk, vol 107, No 4, 1972, pp 537-557

Abstract: This paper is in the nature of a review of the vexatious problem of the decay of the K_L meson. There has been a great deal of contradictory experimental and theoretical data concerning this problem, and the authors review the experimental and theoretical evidence thoroughly, questioning it as they go. They question the reliability of the experimental findings -- some of which have led to the negative result that no decay was detected -- and apply equally radical examination to the reliability of the various theories. After this introductory discussion, the authors examine a mathematical expression of the decay, as found from a highly accurate experiment, and consider its consequences. Then, to plot an exact path through this confusion of doubtful facts and erratic theory, they carefully analyze the new interactions of known particles arising from the decay, the new particles and particularly the new light particles that have been found, and the theory of conservation as applied to the decay in addition to apparent violations of the theory. In discussing this last, the authors touch

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710002-7"

USSR

DOLGOV, A. D. et al, Uspekhi Fizicheskikh Nauk, vol 107, No 24, 1972, pp 537-557

on the unitarity condition, through which a limitation on the probability of the $K_L \rightarrow \mu^+\mu^-$ decay is obtained. With regard to the question of the existence of new decay particles, they review the basic limiting conditions such new particles must satisfy. Finally, in their efforts to verify the apparent contradictions to classical physics theory, they reconsider the mathematical decay expression already mentioned for an examination of the theoretical principles on which it is based. They conclude by thanking Ye. B. Bogomol'nyy, G. V. Grigoryan, N. N. Nikolayev, M. V. Terent'yev, M. A. Shifman, and M. Zh. Shmatikov, colleagues who helped clarify many problems, as well as V. B. Berestetskiy, B. L. Ioffe, I. Yu. Kobzarev, M. S. Marinov, S. G. Matinyan, B. M. Pontekorvo, I. V. Chuvilo, I. S. Shapiro, and Ye. P. Shabalin for having read the review and for their useful comments on it. In an appendix, they mathematically develop the contribution of the two-photon state to the absorptive part of the $K_2 \rightarrow 2\mu$ decay amplitude, and the unitarity condition as applied to K_L meson decays.

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USSR

BOGOMOL'NYY, YE. B., DOLGOV, A. D., ZAKHAROV, V. I., OKUN', L. B., SHIFMAN, M. A., SHMATIKOV, M. ZH., Institute of Theoretical and Experimental Physics of the State Committee for the Use of Atomic Energy

"$K_L^0 \to \mu^+\mu^-$ and the Anomalous Interaction of Muons With Hadrons"

Moscow, Yadernaya Fizika, Vol. 16, No. 1, Jul 72, pp 129-142

Abstract: The possible contribution of the 3π-intermediate state in the imaginary part of the amplitude of $K_L^0 \to \mu^+\mu^-$ decay and the possibility of the existence of anomalous muon-pion interaction which could balance the imaginary part of the amplitude of $K_L^0 \to \mu^+\mu^-$ decay arising through the 2γ-intermediate state are discussed. It is noted that the existence of an anomalously strong pion-muon interaction could resolve the contradiction between the experimental results of Clark, Field, et al and the theory, but it is shown that the anomalous interactions $\pi^0 - 2\mu$ and $3\pi - 2\mu$ do not contradict existing experimental data on elastic and inelastic scattering of a muon by a nucleon, on the generation of muon pairs by pions, and by data on (g - 2) for the muon. It is noted that in this approach series difficulties arise which are associated with the very large value of $\mathrm{Re}\, M_{KL}^{(3\pi)} \to$

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BOGOMOL'NYY, YE. B., et al., Yadernaya Fizika, Vol 16, No 1, Jul 72, pp 129-142

$\rightarrow 2\mu$ and with the necessity for compensating for it with a high degree of accuracy. Experimental observation of the anomalous muon-pion interaction was complicated by two circumstances: the smallness of the anomalous cross section ($\sim 10^{-34}$ cm^2) and the large value of the cross sections for background processes which exceed the anomalous processes by a factor of 10-1000. Elastic backscattering of the μ-meson by a proton at an energy of $\sim$1 Gev, measurement of $(g - 2)$ of the μ-meson, and a study of the $\mu p \rightarrow \mu p \pi^0$ process at $E_\mu \geq 10$ Gev are recommended as the most sensitive methods for observing this interaction. It is proposed that $\mathrm{Im}M^{(2\gamma)}_{K \rightarrow 2\mu}$ is compensated not by the contribution of the 3π-intermediate state but by the contribution of other intermediate states arising in $K^0_L \rightarrow \mu^+\mu^-$ decay, such as $2\pi\gamma$. A discussion of the consequences of possible $2\pi\gamma$ - 2μ-anomalous interaction will be the subject of a later paper.

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USSR

DOLGOV, A. D., DOLGOLENKO, A. G., ZAKHAROV, V. I., OKUN', L. B., Institute of Theoretical and Experimental Physics, State Commission on Utilization of Nuclear Power

"$K_L \to 2\mu$ Decay and the Possibility of Existence of a Light Vector Meson"

Moscow, Yadernaya Fizika, Vol 16, No 2, Aug 72, pp 376-383

Abstract: The authors discuss the hypothesis which holds that the existence of a light vector meson χ_0 is responsible for the failure of experiments set up to detect $K_L \to 2\mu$ decay. The analysis shows that existence of a χ-meson with the properties necessary for compensating the two-photon contribution to $\mathrm{Im}\, F(K_1 \to 2\mu)$ contradicts experiment. This and other difficulties seem to rule out the existence of such a particle. If the hypothetical χ-meson does exist, it would have to decay into new light neutral particles or undergo interaction $\chi\gamma\mu\bar{\mu}$, both unlikely possibilities. The authors thank V. V. Barmin, V. S. Demidov, A. G. Meshkovskiy, N. N. Nikolayev and V. A. Shebanov for constructive criticism.

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USSR

DOLGOV, A. D., ZAKHAROV, V. I., OKUN', L. B., Institute of Theoretical and Experimental Physics of the State Committee on the Use of Atomic Energy

"Shrinkage Characteristics of Amplitudes and the Asymptotic Behavior of Weak Interaction Cross Sections"

Moscow, Yadernaya Fizika, No. 4, Apr 72, pp 808-819

Abstract: The so-called shrinkage characteristic of the amplitude caused by constriction of the scattering cone at asymptotically high energies is discussed. It is noted that the amplitude at $t = 0$ is nonregular and the usual Froissart limitation does not occur in the case of weak interaction when exchange of massless particles (the neutrino) is possible. This would indicate that as $s \to 0$, the cross section increases exponentially: $\sigma_{tot} \sim s^{\alpha}$, where $\alpha > 0$. This article discusses possible restrictions on the value of α, assuming that for $t \leq 0$ the amplitude satisfies the dispersion relationship for s with a finite number of subtractions. The basic idea of the approach here is to study the singularities which are caused by constriction of the scattering cone at high energies and to compare them with ordinary threshold singularities caused by

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DOLGOV, A. D., et al, Yadernaya Fizika, No. 4, Apr 72, pp 808-819

particle exchange (called diagram singularities). The narrowing of the cone on the strength of unitarity is an unavoidable consequence of the growth of the total cross section. It is shown that if it is required that the singularity in the amplitude be no greater than $t^2 \ln t$, as occurs with diagrams with exchange of neutrino pairs, the total cross section σ_{tot} as $s \to \infty$ cannot rise more rapidly than $\sigma^{1/3}$. If it is required that the shrinkage singularity be absent, σ_{tot} cannot rise in terms of powers of s. All conclusions are based on the assumption of the validity of dispersion relationships with a finite number of subtractions for $t \geq 0$. It is noted, in conclusion, that the problem of the asymptotic behavior of the cross section when exchange of massless particles is possible is not limited to the scope of weak interactions for which neutrino exchange is essential. It also has a direct relationship to electromagnetic interaction caused by photon exchange. For the case of massless particles many theorems of quantum field theory are inapplicable in the form in which they are ordinarily formulated. This is attributed to the fact that they assume the presence of an energy slit between the vacuum and the spectrum of physical states. It is suggested that it would be of interest to obtain a more detailed description of the asymptotic behavior of amplitudes on the basis of these ideas and to understand better their relationship with the basic principles of quantum field theory.

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USSR

BOGOMOL'NYY, YE. B., DOLGOV, A. D., ZAKHAROV, V. I., OKUN', L. B., and TERENT'YEV, M. V., Institute of Theoretical and Experimental Physics, State Committee on the Use of Atomic Energy

"On Possible Effects of CPT-Invariance Violation and $K_L \rightarrow 2\mu$ Decay"

Moscow, Yadernaya Fizika, Vol 15, No 5, May 72, pp 985-994

Abstract: An earlier article by the authors noted that the experimental data of A. L. CLARK, T. ELIOTT, R. C. FIELD et al. on $K_L \rightarrow 2\mu$ decay can be fitted to unitarity if it is assumed that there is a CPT-noninvariant interaction which makes a contribution to the $K_L \rightarrow 2\mu$ decay amplitude in the form

$$ibK_2\bar{\mu}\gamma_5\mu \qquad (1)$$

and partly compensates for the contribution of the two-photon intermediate

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BOGOMOL'NYY, YE. B., et al., Yadernaya Fizika, Vol 15, No 5, May 72, pp 985-994

state to the absorptive CPT-invariant part of the amplitude. If the absorptive part, which results from other real transitions, is ignored, there is no conflict with the CLARK et al. experiment if $b \simeq 0.5a \simeq 10^{-12}$. The present article gives a detailed discussion of properties of such an interaction and experimentally observed effects in which it might appear. Properties of the K_L^0, K_S^0 system are considered, followed by a discussion of possible leptonic decays of K mesons with the participation of neutral currents and charged currents, nonleptonic decays, radiative decays, and muon decays.

The authors thank V. N. GRIBOV, B. L. IOFFE, and I. YU. KOBZAREV for interesting discussions.

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USSR UDC 8.74

DOLGOV, A. I., CHURKIN, V. N.

"Constructing Control Tests of Methods of Matching Component Tests"

Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Automation Devices and Systems. Republic Interdepartmental Thematic Scientific and Technical Collection), 1972, vyp. 24, pp 89-98 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V489)

Translation: A study was made of a procedure for selecting the input effects forming the control tests for multilevel logical networks without feedback and branch points made up of arbitrary components of the combination type having one output. A method is proposed for constructing the tests based on finding sensitive paths through the known component tests.

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AA0051774 DOLGOV A.I.

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

239660 CODE CONVERTER from a residual class system into a weighted number system with a mixed set of bases has between the register of the number to be converted and a pyramid matrix and between the latter and the register of the result identical logic circuits for the commutation of each of the inputs of each position. Any non-coincidence of the results of the first and second checks is established by a comparator circuit in parallel to the register of the result.

2.1.68. as 1206622/18-24. A.I. DOLGOV et alia(28.7.69) Bul 11/18.3.69. Class 42 m 3. Int.Cl. G 06 f.

AUTHORS: Dolgov, A. I.; Devyatkin, S. A. Bragin, I. F.

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19820130

USSR UDC 621.314.572

AGIBALOV, V. I., DOLGOV, A. M., LIPKIN, A. A.

"A Buffer Memory Device"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 3, Jan 71, Author's Certificate No 291194, Division G, filed 12 May 69, published 6 Jan 71, p 118

Translation: This Author's Certificate introduces a buffer memory device which contains a binary counter and a storage cell. As a distinguishing feature of the patent, the device is simplified by connecting the counter output to an input of the storage cell, the other input of the cell being connected to an auxiliary pulse source of permissible frequency. The output of the storage cell is connected to the output of the device and to a feedback circuit. The output of the device and the feedback circuit are connected to the inputs of all digital places of the counter.

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USSR UDC 616.5-057-084.001.5

DOLGOV, A. P., STUDNITSIN, A. A., and TURANOV, N. M., Moscow

"Current State of Scientific Research for the Control of Occupational Dermatoses"

Moscow, Vestnik Dermatologii i Venerologii, No 8, 1971, pp 3-6

Abstract: In the Soviet Union, as well as in highly industrialized countries in the West, occupational dermatoses represent 50-70% of occupational diseases. This rise in the frequency of toxicoses is due to the expanding manufacture of polymer plastics, resins, agricultural chemicals, and their numerous intermediate products. Though considerable progress has been made in the analysis and treatment of dermatoses by institutes of labor safety and hygiene, institutes of venereal diseases, and offices of occupational dermatoses, much remains to be done in that area. Offices of occupational dermatoses should be established in all industrial districts. Workers in chemical plants should be examined before employment and regularly thereafter. Chemical substances should be classified into those causing direct skin irritations and those causing sensitization. In each case, the exact mechanism of action should be elucidated, and the best equipment should be made available for this research. Methods and means of individual protection should be developed to

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DOLGOV, A. P., et al., Vestnik Dermatologii i Venerologii, No 8, 1971, pp 3-6

prevent contact with the irritating agent and to neutralize it after contact. These means will include special garments as well as thick ointments to be applied to the skin prior to work. Criteria should be worked out to introduce a uniform evaluation of work capability or incapability of patients suffering from dermatoses.

1/2 027 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--ELECTRON EMISSION FOR FAST LI PRIME POSITIVE IONS PASSING THROUGH FINE CARBON FILMS -U-

AUTHOR-(02)-DOLGOV, A.S., PIVOVAR, L.I.

D

COUNTRY OF INFO--USSR

SOURCE--UKRAYIN. FIZ. ZH. (USSR), VOL. 15, NO. 5, P. 739-41 (MAY 1970)

DATE PUBLISHED----MAY70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTRON EMISSION, ION BOMBARDMENT, LITHIUM, POLYCRYSTALLINE FILM, CARBON, ANGULAR DISTRIBUTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1809 STEP NO--UR/0185/70/015/005/0739/0741

CIRC ACCESSION NO--AP0133714

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133714

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COEFFICIENTS ARE COMPARED OF ION ELECTRON EMISSION FROM OPPOSITE SIDES OF FREE CARBON FILM ARISING DURING THE BOMBARDMENT OF IT BY LI PRIME POSITIVE IONS WITHIN THE ENERGY RANGE FROM 50 TO 250 KEV. THE ASYMMETRY OF ELECTRONS EXIT WITH RESPECT TO THE ION BEAM DIRECTION IS DETERMINED.

UNCLASSIFIED

USSR

UDC: 681.333.519.2

DOLGOV, G. S., KOMANDROVSKIY, V. G., PETROSYANTS, A. A., and STEPIN, Yu. P. (I. M. Gubkin Institute of Oil Chemistry and Gas, Moscow)

"Device for Digital Recording of a Stationary Random Process"

Avt. sv. SSSR. kl. G 06 g 7/52, No 338909, zayavl. 6.11.70, opubl. 16.06.72 (Author's Certificate, USSR, class G 06 g 7/52, No 338909, claimed 6 November 1970, published 16 June 1972) from RZh--Avtomatika, telemekhanika i vychislitel'naya tekhnika, No 2, 1973, Abstract No 2A457P)

Translation: A device is proposed for the digital recording of a stationary random process, containing a random signal sensor, a registration unit, a signal unit random in follow-up time and single-signalled per cycle of registration unit operation, a unit for controlling the transmission time, and a general control unit. Three illustrations.

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1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--TEMPERATURE AND AMOUNT OF HEAT NECESSARY FOR IMPARTING THE DESIRED FLUIDITY OF AMMONIUM NITRATE EXPLOSIVES -U-

AUTHOR-(04)-KHANUKAYEV, A.N., DOLGOV, K.A., EIST, YU.A., MIRNYY, V.N.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., GORN. ZH. 1970, 13(2), 64-9

DATE PUBLISHED-------70

SUBJECT AREAS--ORDNANCE

TOPIC TAGS--AMMONIUM NITRATE, EXPLOSIVE LOADING, TRINITROTOLYENE, WATER, CELLULOSE, LIQUID EXPLOSIVE/(U)CM CELLULOSE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/2095 STEP NO--UR/0150/70/013/002/0064/0069

CIRC ACCESSION NO--AP0127468

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0127468

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIENCE OBTAINED WITH WATER FILLED EXPLOSIVES ("AQUATOLS") SHOWS THAT WATER DOES NOT PRODUCE AT ROOM TEMP. THE REQUIRED FLUIDITY OF EXPLOSIVES DUE TO HEAT ABSORPTION BY DISSOLVING NH SUB4 NO SUB3. USE OF HOT WATER FOR SATN. OF DRY "AQUATOL" MIXTS. AND A HOT FLUID EXPLOSIVE CONTG. 65PERCENT OF A 90PERCENT AQ. SOLN. OF NH SUB4 NO SUB3, 32PERCENT GRANULATED TNT, AND 3PERCENT NA CM CELLULOSE, GIVES AT 70-90DEGREES A CONSISTENCY THAT MAKES IT POSSIBLE TO EASILY INJECT THE EXPLOSIVES INTO THE PIPES AND HOSES FOR SUBSEQUENT FILLING OF THE BOREHOLES. EQUATIONS ARE GIVEN FOR CALCN. OF THE TEMP. OF THE RESULTING AQ. NH SUB4 NO SUB3 SOLNS. AND THE TEMP. OF THE RESULTING "AQUATOL" MIXT. EXAMPLES OF CALCNS. ARE PRESENTED AND THE THEORETICAL VALUES ARE COMPARED WITH EXPTL. RESULTS. FACILITY: LENINGRAD. GORN. INST. IM. PLEKHANOVA, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 534.134

KOZHEVNIKOV, S. N. and DOLGOV, N. M.

"The Elastic Interaction of Colliding Rods With Damped Mountings"

Kiev, Prikladnay Mekhanika, Vol 9, No 7, 1973, pp 91-97

Abstract: The paper deals with the problem of the symmetrical impact of an elastic prismatic rod, moving at the moment of collision at an initial velocity of v_0, against the supports of another prismatic rod installed on elastic mountings. The solution is conducted by the method of successive approximations, with account taken of the elastic characteristics of the rods, and of the mountings and supports of the second rod, it being assumed that the latter are nonlinear. A frequency equation is provided for the case under consideration, as well as a solution of the relatively dynamic deformations and contact loads. The results of the solution of this problem permit the elasticity and mass characteristics of the system under consideration to be selected in such a manner as to reduce the dynamic loads to a minimum and, when necessary, to eliminate rebounds and repeated collisions. 3 figures, 6 references.

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USSR UDC 612.821.2.017.4

DERGACHEV, V. V. and DOLGOV, O. N., Biomedical Faculty, Second Moscow Medical Institute im. N. I. Pirogov

"Suppression of Memory in Rats With Antibodies to the Brain of Trained Rats"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 4, 1971, pp 12-15

Abstract: Rats were conditioned to escape from and avoid an electric current. Gamma globulin obtained from the serum of rabbits immunized with brain homogenates from the trained rats was injected into a group of untrained rats. The experimental animals proved to be much worse than the controls in acquiring and retaining the motor-defense skill of escaping from and avoiding the electric current. The authors conclude that training alters the brain antigens as well as the spectrum of proteins synthesized in the brain or of related substances that are specific to the skill studied.

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USSR

UDC 547.245

VORONKOV, M. G., MARMUR, L. A., DOLGOV, O. N., PESTUNOVICH, V. A., POKROVSKIY, Ye. I., and POPEL, Yu. I., Leningrad Institute of Textile and Light Industry imeni S. M. Kirov; Institute of Organic Synthesis, Academy of Sciences Latvian SSR

"Bis(trialkylsilyl) Hypophosphites"

Leningrad, Zhurnal Obshchey Khimii, Sep 70, Vol 41, No 9, pp 1987-1991

Abstract: This is the first report on the synthesis of organosilicon -- bis(trialkylsilyl) hypophosphites $(R_3SiO_2)PH$. One method is based on the reaction of ammonium hypophosphite with trialkylchlorosilanes in the presence of secondary and tertiary amines:

$$NH_4OPH_2O + 2R_3SiCl + :B \longrightarrow (R_3SiO)_2PH + NH_4Cl + :B \cdot HCl \qquad (1)$$

R = alkyl, : B = amine

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USSR

VORONKOV, M. G., et al., Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1987-1991

The hypophosphite yield reaches 35-45%. The second method produces a much higher yield (80-90%) and is based on the reaction of hypophosphorus acid with trialkyl(dialkylamino)silanes:

$$HOPH_2O + 2R_3SiNR_2 \longrightarrow (R_3SiO)_2PH + 2HNR_2 \qquad (2)$$

Some of the properties of these compounds are discussed. The compounds readily disproportionate in the presence of alkyl halides, transsilylate are oxidized by oxygen, and add to double bonds. The IR and NMR spectra of bis(trialkylsilyl) hypophosphites are presented in a table.

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USSR

UDC 547.26'118'245.07

ORLOV, N. F., and DOLGOV, O. N.

"A Method of Making Alkyl Trialkylsilyl Phosphites or Bis-(Trialkylsilyl) Phosphites"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 35, Soviet Patent No 287015, class 12, filed 12 Aug 69, published 19 Nov 70, p 40

Translation: This Author's Certificate introduces a method of making alkyl trialkylsilyl phosphites or bis-(trialkylsilyl) phosphites by treated trialkylalkoxysilanes with esters of phosphorous acid with the application of heat and subsequent isolation of the product by conventional methods. As a distinguishing feature of the patent, the method is simplified and a wider range of raw materials is made available by using alkyl-(trialkylsilyl)- or bis-(trialkylsilyl phosphites as the phosphorous acid esters. The patent also covers a method distinguished by the fact that the process is carried out at 50-200°C.

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USSR

UDC 547.245

DOLGOV, O. N., VORONKOV, M. G., and ORLOV, N. F., Leningrad Institute of the Textile and Light Industry imeni S. M. Kirov

"Cleavage of Hexaalkyldisiloxanes by Monoalkyl Phosphites"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 7, Jul 70, pp 1667-1668

Abstract: It was found by the authors that hexaalkyldisiloxanes are cleaved by monoalkyl phosphites according to the general scheme

$$R_3SiOSiR_3 + 2(RO)P(O)H_2 \rightleftarrows 2(R_3SiO)(RO)PHO + H_2O \qquad (I)$$

The reaction proceeded in the presence of protonic and aprotic acids (H_2SO_4, p-$CH_3C_6H_4SO_2H$, $ZnCl_2$) provided there is continuous distilling off of the water that forms. It was suggested that the reaction was a stepwise process.

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Organophosphorous Compounds

USSR UDC 547.245

DOLGOV, O. N., and VORONKOV, M. G., Leningrad Institute of the Textile and Light Industry imeni S. M. Kirov

"Telomerization of Dialkyl Phosphites and Bis(trialkylsilyl) Phosphites with Vinylsilane Derivatives"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 7, Jul 70, pp 1668-1669

Abstract: Dialkyl phosphites and bis(trialkylsilyl) phosphites add to trialkylalkenylsilanes in the presence of tert-butyl peroxide according to the general scheme $(RO)_2P(O)H + CH_2{=}CH(CH_2)_nSiR_3 \rightarrow (RO)_2P(O)(CH_2)_{n+2}SiR_3$

It was found by the authors that at n = 0 the addition reaction may be accompanied by a telomerization reaction. The latter resulted in adducts of the composition 1:2, 1:3 etc., the formation of which was promoted by the presence of an excess of trialkylvinylsilane in the reaction mixture.

$$(RO)_2P(O)H + nCH_2{=}CHSiR_3 \rightarrow (RO)_2P(O)(CH_2CHSiR_3)_nH$$

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USSR

UDC 621.311.001.1

BOLOTOV, V. V., ARTYUGINA, I. M., BURTSEVA, G. Ye., DOLGOV, P. P.

Voprosy teorii i metody proyektirovaniya energeticheskikh sistem (Problems of Theory and Methods of Power System Design), Leningrad, Nauka Press, 1970, 273 pp, ill., 1 r. 20 k. (from RZh-Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 Ye172 K)

Translation: Some problems of the theory and methods of technical-economic design of power systems are discussed. Basic attention is concentrated on analysis of the set of problems of modern development of power systems (construction of the power engineering balances, methods of calculating power reserves, development of the power system structure and the intersystem overhead electric power lines, and so on). The book is intended for a broad class of readers. There are 39 illustrations, 37 tables and a 52-entry bibliography.

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USSR UDC 591.9(47)

ROSSOLIMO, O. L., and DOLGOV, V. A., Editors

Issledovaniya po Faune Sovetskogo Soyuza (Investigations of the Fauna of the Soviet Union), Moscow, Izdatel'stvo Moskovskogo Universiteta, 1972, 188 pp

Translation: Table of Contents:

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USSR

DOLGOV, V. A.,

"Reverse Problems of Motion of a Point of Variable Mass Due to 2 or 3 Mutually Perpendicular Reactive Forces"

Matematika i Mekhanika. Tezisy Dokl 4-y Kazakhstan. Mezhvuz. Nauch. Konf. Po Mat. i Mekh. Ch. 2. [Mathematics and Mechanics, Theses of Reports of 4th Kazkhstan Inter-University Scientific Conference on Mathematics and Mechanics. Part II -- Collection of Works], Alma-Ata, 1971, pp 38-39. (Translated from Referativnyy Zhurnal Mekhanika, No 1, 1972, Abstract No. 1A108).

Translation: The following problem is studied: suppose a point of variable mass m must move in a space which is a field of known forces $\bar{F}=m\bar{a}$ and $\bar{Q}$, independent of the mass, making a fixed motion as a result of two or three reactive forces $\bar{\phi}_i$, directed in known directions, each of which is fixed by one of the mutually perpendicular unit vectors $\bar{n}_i^o$ (i=1, 2, 3 or i=1, 2), which are independent of m. The problem is to determine how m must change with time in each of the directions in order to perform the required motion. The rule of change of the total mass of the point and the distribution of the mass among each of the directions are produced in quadratures.

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USSR UDC: 616.22-008.4-789.28-78

PUPKO, I. D., ULASHKEVICH, Yu. V., MAGRACHEV, A. Z., BORONETS, V. P., DOLGOV, V. K., LAPSHIN, V. A., DEKHTYAR, B. S., VAYNSHTEYN, A. M.

"A Voice-Forming Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 28, 1970, Soviet Patent No 280548, Class 21, filed 9 Jun 69, p 42

Abstract: This Author's Certificate introduces a voice-forming device which contains a main current generator, projector and self-contained power supply. As a distinguishing feature of the patent, the sound spectrum of the projected oscillations is approximated to that of natural speech by adding a noise generator, a noise amplifier, and an operating mode commutator.

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II-4. PHYSICOCHEMICAL ANALYSIS OF THE In-P-I_2 SYSTEM AND THE MONOTROPY OF INDIUM PHOSPHIDE CRYSTALS GROWN BY THE CHEMICAL GAS TRANSPORT REACTION METHOD

[Article by A. V. Sandulova, A. K. Zaitsev, Ye. P. Dolgov, S. Nevlak, R. N. Skoropad, L'vov; Novosibirsk, III Simposium po Protsessam Rosta i Svoystv Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 14]

In this paper the authors have investigated the possibility of chemical processes taking place in the In-P-I_2 system. Studies were made of the basic reactions which can participate to one degree or another in the process of transport and crystallization of indium phosphide (InP).

The temperature dependence of the equilibrium constants of the postulated reactions in the temperature range of 600°K to 1200°K was calculated, and a physicochemical analysis was made of these reactions.

On the basis of the calculations, filamentary and platy InP crystals were grown which reached a length of 2-6 mm and 0.4 mm in cross section. The external faces of such crystals are perfect, mirror smooth.

It was established that the InP crystals grow in three basic crystallographic directions [111], [110], [211].

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Radiobiology

UDC 612.014.481.1

USSR

DOLGOV, Ye. G. and ORALBAYEV, K. O., Semipalatinsk Medical Institute

"Some Mechanisms of the Damaging Effect of Irradiation and of Radiomimetic Agents"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR, No 1, Jan/Feb 71, pp 56-59

Abstract: Changes in the resistance of white rats to mercury dichloride (a typical thiotoxin) were studied at various intervals after whole-body x-ray irradiation and administration of two alkylating agents belonging to chloroethylamines: sarcolysin and Thio-TEPA. The results of this investigation have clearly demonstrated that endogenous thiols are indeed involved in the development of pathological changes after exposure to ionizing radiation and after administration of alkylating compounds.

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1/2 034 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--THE INTERACTION BETWEEN TISSUES AND ACTIVE DYE AT DIFFERENT STAGES OF ACUTE RADIATION INJURY -U-

AUTHOR--DOLGOV, YE.G.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN EKSPERIMENTAL'NOY BIOLOBII I MEDITSINY, 1970, VOL 69, NR 5, PP 39-42

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2/2 034 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120766

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY WAS MADE OF THE INTERACTION BETWEEN INTERNAL ORGANS (LIVER, KIDNEY, SMALL INTESTINE, SPLEEN, BRAIN MUSCLES, ADRENAL GLAND) OF ALBINO RATS AND ACTIVE DYE, PROCION BRIGHT RED, FOLLOWING 6 HOURS, 1, 3, 5, 7 AND 10 DAYS AFTER SINGLE WHOLE BODY X IRRADIATION WITH A DOSE OF 800 R. THE IRRADIATION WAS FOUND TO RESULT IN INCREASING THE DYE SORPTION BY THE MAJORITY OF THE TISSUES EXAMINED, THE SORPTION BEING CHARACTERIZED MAINLY BY CONVALENT BONDS. DISTURBANCES IN THE TISSUE SORPTION ARE OBSERVED FOR THE SPACE OF THE ENTIRE POSTIRRADIATION PERIOD. AN INCREASE OF THE ACTIVE DYE SORPTION IS MOST PRONOUNCED IN TISSUES OF THE SMALL INTESTINE AND SPLEEN. THE CHANGES DISCOVERED MAY BE DUE TO SOME SERIOUS STRUCTURAL REORGANIZATION OF CYTOPLASMIC PROTEIN COMPLEXES EFFECTED BY IONIZING RADIATION. FACILITY: SEMIPALATINSK MEDICAL INSTITUTE.

UNCLASSIFIED

USSR

UDC 612.13:612.35.014.45

ANDREYEVA-GALANINA, Ye. Ts., DOLGOVA, M. A., and YAKUBOVICH, T. G., Leningrad Sanitary-Hygiene Medical Institute

"The Effect of General Vertical Vibration on the Liver Vascular Bed"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 12, 1971, pp 22-25

Abstract: The effect of vertical vibration of rabbits on the vascular bed of the liver was studied. Three rabbits were subjected to vibration of 50 Hz with an mm amplitude of 1.3 mm for 120 days, four rabbits, for 40 days, and four rabbits served as controls. Histological studies showed that the total area of the liver blood vessels and capillaries increased by 26% and 58% after 40 and 120 days of vibration, respectively. Arterioles were affected more profoundly than capillaries in this respect in both cases. Their area increased by 34 and 70% after 40 and 120 days of vibration, respectively. Number of capillaries and arterioles also increased. Interlobular veins, main veins, and capillaries were dilated and distended with blood, and the presence of perivascular infiltrations and hemorrhages was detected in all experimental animals.

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USSR UDC 615.832.9.015.156:612.015.642

DOLGOVA, Z. Ya., and KARATYSH, B. V., Semipalatinsk Medical Institute, Semipalatinsk

"Changes in the Distribution of Ascorbic Acid in the Organism During the Post-Hypothermic Period"

Moscow, Voprosy Meditsinskoy Khimii, Vol 18, Vyp 1, Jan/Feb 72, pp 73-75

Abstract: Hypothermia was induced by lowering the environmental temperature for one group of rats to 32-29°C and to 22-19°C for a second group. Upon removal of rats from the low-temperature chamber rats were killed 1, 2, 5 hr later and 1, 3, 5, and 7 days later. The concentration of ascorbic acid in adrenal glands, brain, heart, liver, skeletal muscles, and blood plasma was analyzed by the dichlorphenolindophenol method. The concentration of ascorbic acid in heart, liver, and skeletal muscles among rats of the first groups decreased to 64.2, 67.1, 59.0% (control 100%), respectively, one hour after hypothermia, and it continued to be low in adrenal glands, heart, and skeletal muscles 2 and 5 hours and 1 and 3 days removal from the chamber. In 5 days, only heart and skeletal muscles contained a decreased amount of ascorbic acid, and in 7 days all organs attained a normal concentration of ascorbic acid. Among rats of the second group all organs analyzed contained a decreased amount

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